

# PRODUCT DATA SHEET



TENCATE ADVANCED COMPOSITES

## EX-1516 Film Adhesive

### PRODUCT TYPE

250°F (121°C) Cure Toughened  
Cyanate Ester Film Adhesive

### PRODUCT FORMS

Film Adhesive

### TYPICAL APPLICATIONS

- High Dimensional Stability  
Space Structures
- Reflectors
- Radomes and Antennae
- Radar Transparent Structures
- Low Observables
- Aircraft Structures

### SHELF LIFE

#### Tack Life

7 days @ 77°F (25°C)

#### Frozen Storage Life

6 months @ <0°F (-18°C)

Tack life is the time during which the prepreg retains enough tack, drape and handling for easy component lay-up.

Revised 1/2017

All data given is based on representative samples of the materials in question. Since the method and circumstances under which these materials are processed and tested are key to their performance, and TenCate Advanced Composites has no assurance of how its customers will use the material, the corporation cannot guarantee these properties.

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### PRODUCT DESCRIPTION

The EX-1516 cyanate ester film adhesive has been formulated to use in specific applications where low moisture absorption and/or low dielectric constant/low loss are of utmost importance. The resin system's strength and toughness when bonding solid, honeycomb or foam core structures are comparable and often greater than high performance epoxy adhesives.

Due to the cyanate ester resin system's inherent low shrinkage during cure, bonded structures will retain less inherent stress and will therefore remain dimensionally stable during thermal cycling. This factor is of extreme importance when bonding structures for use in space. Finally, like other cyanate ester-based products, the EX-1516 film adhesive displays low outgassing and microcracking properties to assure structural integrity even after severe environmental exposure and radiation bombardment.

### PRODUCT BENEFITS/FEATURES

- Compatible with EX-1515 Prepregs
- Excellent Dielectric Properties
- Low Outgassing
- 250°F (121°C) Cure Capable
- Postcurable for Higher Tg

### NEAT RESIN PHYSICAL PROPERTIES

Moisture Pickup .....	0.6 – 0.7%
Dielectric Constant (10 GHz).....	2.6 – 2.7
Loss Tangent (10 GHz).....	0.005 – 0.006
Outgassing (ASTM E595).....	TML = 0.23%
	CVCM = 0.02%
	WVR = 0.18%

### EX-1516 NWFG (6061 T-6 ALUMINUM)

Properties	Condition	Method	Results	
Lap Shear Strength	RTD	ASTM D1002	4.31 ksi	29.7 MPa
T-Peel	RTD	ASTM D1876	23.6 lbs/in	105.6 N/25 mm

### EX-1516 UNSUPPORTED (6061 T-6 ALUMINUM)

Properties	Condition	Method	Results	
Flatwise Tension	RTD	ASTM C297	2.8 ksi	19.3 MPa
Flatwise Tension	ETD <sub>1</sub>	ASTM C297	2.4 ksi	16.5 MPa
Flatwise Tension	ETD <sub>2</sub>	ASTM C297	1.7 ksi	11.7 MPa
Flatwise Tension	CTD	ASTM C297	2.5 ksi	17.2 MPa

ETD<sub>1</sub>: 180°F (82°C)  
ETD<sub>2</sub>: 250°F (121°C)  
CTD: -67°F (-55°C)

The above mechanical data was generated using the following cure schedule:  
Ramp 3°F/1.7°C per minute from room temperature to 250°F/121°C, hold at 250°F/121°C for 5 hours.

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