

Park Electrochemical Nelcote® V-376 Cyanate Ester Epoxy Prepregs, 4581 Quartz Reinforced

Category : Polymer , Thermoset , Epoxy

Material Notes:

Nelcote® V-376 is a Cyanate Ester matrix providing excellent electrical and mechanical properties for harsh aircraft, shipboard, and undersea applications for Radomes, Antenna, and Reflectors. Simple processing and good handling characteristics make V-376 an ideal alternative to BMI and polyimide resin systems. GC110 LM qualified specifications. Key Features and Benefits: Cyanate Ester resin provides outstanding electrical properties (Dk, Df) Excellent Moisture resistance properties Simplified handling and processing characteristics Minimal degradation of mechanical properties in Hot/Wet environments Self-Adhesive to many types of foam and honeycomb core Applications/Qualifications: Radomes Reflectors Antenna Signature Control Information provided by Park Electrochemical Corp.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Park-Electrochemical-Nelcote-V-376-Cyanate-Ester-Epoxy-Prepregs-4581-Quartz-Reinforced.php

Physical Properties	Metric	English	Comments
Volatiles	<= 1.5 %	<= 1.5 %	
Water Absorption	0.67 %	0.67 %	by weight; 14 day soak at 160°F
Thickness	0.127 microns	0.00500 mil	cured laminate, per ply

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	427 MPa	62000 psi	0° Direction, Wet; ASTM D638
	@Temperature 149 °C	@Temperature 300 °F	
	648 MPa	94000 psi	0° Direction, Dry; ASTM D638
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Tensile Modulus	23.4 GPa	3400 ksi	Dry; ASTM D638
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	23.4 GPa	3400 ksi	Wet; ASTM D638
	@Temperature 149 °C	@Temperature 300 °F	
Flexural Strength	786 MPa	114000 psi	0° Direction, Dry; ASTM D790
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Flexural Modulus	22.8 GPa	3300 ksi	0° Direction, Dry; ASTM D790
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Compressive Strength	221 MPa	32000 psi	Dry; ASTM D695
	@Temperature 149 °C	@Temperature 300 °F	

Mechanical Properties	Metric	English	Comments
	@Temperature 149 °C	@Temperature 300 °F	Wet; ASTM D695
	531 MPa	77000 psi	Dry; ASTM D695
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	22.8 GPa	3300 ksi	Dry; ASTM D695
Compressive Modulus	@Temperature 23.9 °C	@Temperature 75.0 °F	
	24.1 GPa	3500 ksi	Wet; ASTM D695
	@Temperature 149 °C	@Temperature 300 °F	
	24.1 GPa	3500 ksi	Dry; ASTM D695
	@Temperature 149 °C	@Temperature 300 °F	
	75.8 MPa	11000 psi	Short Beam; Dry; ASTM D2344
Shear Strength	@Temperature 23.9 °C	@Temperature 75.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	52.0 µm/m-°C	28.9 µin/in-°F	Z-Axis
Glass Transition Temp, Tg	148 °C	298 °F	DMA; without post-cure
	178 °C	352 °F	DMA; with post-cure

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.3	3.3	
	@Frequency 9.375e+9 Hz	@Frequency 9.375e+9 Hz	
Dissipation Factor	0.0070	0.0070	
	@Frequency 9.375e+9 Hz	@Frequency 9.375e+9 Hz	

Processing Properties	Metric	English	Comments
Gel Time	3.00 - 30.0 min	3.00 - 30.0 min	
	@Temperature 135 °C	@Temperature 275 °F	
Shelf Life	12.0 Month	12.0 Month	
	@Temperature -17.8 °C	@Temperature 0.000 °F	

Descriptive Properties	Value	Comments
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Fabric Area Weight (g/m²) Descriptive Properties		288 Value	Comments
Resin Flow (%)		13-33	325°F, 50psi
Resin Solids Content (%)		35-41	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com
Email : sales@lookpolymers.com
Tel : +86 021-51131842
Mobile : +86 13061808058
Skype : lookpolymers
Address : United North Road 215,Fengxian District, Shanghai City,China