

Park Electrochemical Nelcote® V-376 Cyanate Ester Epoxy Prepregs, 7781 E-Glass 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-7781-E-Glass-Reinforced.php

Physical Properties	Metric	English	Comments
Volatiles	<= 2.0 %	<= 2.0 %	
Water Absorption	0.67 %	0.67 %	by weight; 14 day soak at 160°F
Thickness	0.229 microns	0.00900 mil	cured laminate, per ply

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	359 MPa	52000 psi	0° Direction, Dry; ASTM D638
	@Temperature 149 °C	@Temperature 300 °F	
	386 MPa	56000 psi	0° Direction, Dry; ASTM D638
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Tensile Modulus	21.4 GPa	3100 ksi	Dry; ASTM D638
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	22.1 GPa	3200 ksi	Dry; ASTM D638
	@Temperature 149 °C	@Temperature 300 °F	
Flexural Strength	558 MPa	81000 psi	0° Direction, Dry; ASTM D790
	@Temperature 149 °C	@Temperature 300 °F	
	621 MPa	90000 psi	0° Direction, Dry; ASTM D790
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Flexural Modulus	21.4 GPa	3100 ksi	0° Direction, Dry; ASTM D790
	@Temperature 149 °C	@Temperature 300 °F	

Mechanical Properties	Metric	English	Comments
	@Temperature 23.9 °C	@Temperature 75.0 °F	0° Direction, Dry; ASTM D790
Compressive Strength	345 MPa	50000 psi	Dry; ASTM D695
	@Temperature 149 °C	@Temperature 300 °F	
	400 MPa	58000 psi	Dry; ASTM D695
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Shear Strength	82.0 MPa	11900 psi	Short Beam; Dry; ASTM D2344
	@Temperature 149 °C	@Temperature 300 °F	
	115 MPa	16700 psi	Short Beam; Dry; ASTM D2344
	@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	

Electrical Properties	Metric	English	Comments
Dielectric Constant	4.0	4.0	
	@Frequency 9.375e+9 Hz	@Frequency 9.375e+9 Hz	
Dissipation Factor	0.011	0.011	
	@Frequency 9.375e+9 Hz	@Frequency 9.375e+9 Hz	

Processing Properties	Metric	English	Comments
Gel Time	0.800 - 2.50 min	0.800 - 2.50 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
Fabric Area Weight (g/m ²)	303	
Resin Flow (%)	8-28	325°F, 50psi

Resin Solids Content (%) Descriptive Properties	36-42 Value	Comments
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