

## Park Electrochemical Nelcote® V-376 Cyanate Ester Epoxy Prepregs, 4503 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-4503-Quartz-Reinforced.php](http://www.lookpolymers.com/polymer_Park-Electrochemical-Nelcote-V-376-Cyanate-Ester-Epoxy-Prepregs-4503-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	0.254 microns	0.0100 mil	cured laminate, per ply

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	490 MPa	71000 psi	0° Direction, Wet; ASTM D638
	@Temperature 149 °C	@Temperature 300 °F	
	662 MPa	96000 psi	0° Direction, Dry; ASTM D638
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Tensile Modulus	22.8 GPa	3300 ksi	Wet; ASTM D638
	@Temperature 149 °C	@Temperature 300 °F	
	24.8 GPa	3600 ksi	Dry; ASTM D638
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Flexural Strength	710 MPa	103000 psi	0° Direction, Dry; ASTM D790
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Flexural Modulus	23.4 GPa	3400 ksi	0° Direction, Dry; ASTM D790
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Compressive Strength	317 MPa	46000 psi	Wet; ASTM D695
	@Temperature 149 °C	@Temperature 300 °F	

Mechanical Properties	Metric	English	Comments
	@Temperature 149 °C	@Temperature 300 °F	Dry; ASTM D695
	476 MPa	69000 psi	Dry; ASTM D695
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Compressive Modulus	24.8 GPa	3600 ksi	Dry; ASTM D695
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	24.8 GPa	3600 ksi	Wet; ASTM D695
	@Temperature 149 °C	@Temperature 300 °F	
	25.5 GPa	3700 ksi	Dry; ASTM D695
	@Temperature 149 °C	@Temperature 300 °F	
Shear Strength	63.4 MPa	9200 psi	Short Beam; Dry; ASTM D2344
	@Temperature 23.9 °C	@Temperature 75.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	52.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	28.9 $\mu\text{in}/\text{in}\cdot\text{°F}$	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/m <sup>2</sup> ) Descriptive Properties	Value	Comments
Resin Flow (%)	13-33	325°F, 50psi
Resin Solids Content (%)	35-41	

## Contact Songhan Plastic Technology Co.,Ltd.

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