

Park Electrochemical Nelcote® E-765 Epoxy Prepreg, 7781 E-Glass Reinforced

Category : Polymer , Thermoset , Epoxy

Material Notes:

Nelcote® E-765 is a tough 250°F cure prepreg system designed to replace 350°F cure systems in aircraft structural applications. FAA-approved Design Allowable Databases are available upon request. Key Features and Benefits: Designed to replace first generation 350°F (176°C) cure systems. Wide cure temperature process window of 250°F to 350°F Exhibits very low void content, i.e.,

Order this product through the following link:

http://www.lookpolymers.com/polymer_Park-Electrochemical-Nelcote-E-765-Epoxy-Prepreg-7781-E-Glass-Reinforced.php

Physical Properties	Metric	English	Comments
Volatiles	<= 1.5 %	<= 1.5 %	
Thickness	229 microns	9.00 mil	cured, per ply

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	345 MPa	50000 psi	0° Direction, Wet; Vacuum/Oven Cured; ASTM D3039-95
	@Temperature 82.2 °C	@Temperature 180 °F	
	421 MPa	61000 psi	0° Direction, Dry; Vacuum/Oven Cured; ASTM D3039-95
	@Temperature 82.2 °C	@Temperature 180 °F	
Tensile Modulus	448 MPa	65000 psi	0° Direction, Dry; Vacuum/Oven Cured; ASTM D3039-95
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	503 MPa	73000 psi	0° Direction, Dry; Vacuum/Oven Cured; ASTM D3039-95
	@Temperature -53.9 °C	@Temperature -65.0 °F	
Compressive Strength	23.4 GPa	3400 ksi	0° Direction, Wet; Vacuum/Oven Cured; ASTM D3039-95
	@Temperature 82.2 °C	@Temperature 180 °F	
	24.8 GPa	3600 ksi	0° Direction, Dry; Vacuum/Oven Cured; ASTM D3039-95
	@Temperature 82.2 °C	@Temperature 180 °F	
Compressive Strength	25.5 GPa	3700 ksi	0° Direction, Dry; Vacuum/Oven Cured; ASTM D3039-95
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	26.9 GPa	3900 ksi	0° Direction, Dry; Vacuum/Oven Cured; ASTM D3039-95
	@Temperature -53.9 °C	@Temperature -65.0 °F	
Compressive Strength	359 MPa	52000 psi	Wet; Vacuum/Oven Cured; SACMA 1-94
	@Temperature 82.2 °C	@Temperature 180 °F	
	421 MPa	61000 psi	Dry; Vacuum/Oven Cured; SACMA 1-

Mechanical Properties	Metric @ Temperature 82.2 °C	English @ Temperature 180 °F	94 Comments
	503 MPa @ Temperature 21.1 °C	73000 psi @ Temperature 70.0 °F	Dry; Vacuum/Oven Cured; SACMA 1-94
	586 MPa @ Temperature -53.9 °C	85000 psi @ Temperature -65.0 °F	Dry; Vacuum/Oven Cured; SACMA 1-94
Compressive Modulus	25.5 GPa @ Temperature 82.2 °C	3700 ksi @ Temperature 180 °F	Dry; Vacuum/Oven Cured; SACMA 1-94
	25.5 GPa @ Temperature 82.2 °C	3700 ksi @ Temperature 180 °F	Wet; Vacuum/Oven Cured; SACMA 1-94
	26.2 GPa @ Temperature 21.1 °C	3800 ksi @ Temperature 70.0 °F	Dry; Vacuum/Oven Cured; SACMA 1-94
	28.3 GPa @ Temperature -53.9 °C	4100 ksi @ Temperature -65.0 °F	Dry; Vacuum/Oven Cured; SACMA 1-94
Shear Strength	32.4 MPa @ Temperature 82.2 °C	4700 psi @ Temperature 180 °F	Short-Beam, Dry; Vacuum/Oven Cured; ASTM D2344
	48.3 MPa @ Temperature 82.2 °C	7000 psi @ Temperature 180 °F	Short-Beam, Dry; Vacuum/Oven Cured; ASTM D2344
	55.8 MPa @ Temperature 21.1 °C	8100 psi @ Temperature 70.0 °F	Short-Beam, Dry; Vacuum/Oven Cured; ASTM D2344
	67.6 MPa @ Temperature -53.9 °C	9800 psi @ Temperature -65.0 °F	Short-Beam, Dry; Vacuum/Oven Cured; ASTM D2344
	82.0 MPa @ Temperature 82.2 °C	11900 psi @ Temperature 180 °F	Beam, V-Notched; Dry; Vacuum/Oven Cured; ASTM D5379-93
	105 MPa @ Temperature 82.2 °C	15200 psi @ Temperature 180 °F	Beam, V-Notched; Dry; Vacuum/Oven Cured; ASTM D5379-93
	131 MPa @ Temperature 21.1 °C	19000 psi @ Temperature 70.0 °F	Beam, V-Notched; Dry; Vacuum/Oven Cured; ASTM D5379-93
	163 MPa @ Temperature -53.9 °C	23700 psi @ Temperature -65.0 °F	Beam, V-Notched; Dry; Vacuum/Oven Cured; ASTM D5379-93

Thermal Properties	Metric	English	Comments
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Thermal Properties	165 °C Metric	329 °F English	From DMA Comments
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Electrical Properties	Metric	English	Comments
Dielectric Constant	4.5 @Frequency 9.375e+9 Hz	4.5 @Frequency 9.375e+9 Hz	
Dissipation Factor	0.020 @Frequency 9.375e+9 Hz	0.020 @Frequency 9.375e+9 Hz	

Processing Properties	Metric	English	Comments
Gel Time	5.00 min @Temperature 135 °C	5.00 min @Temperature 275 °F	
Shelf Life	6.00 Month @Temperature -17.8 °C	6.00 Month @Temperature 0.000 °F	

Descriptive Properties	Value	Comments
Fabric Area Weight (g/m ²)	303	
Prepreg Resin Content (%)	38	
Resin Flow (%)	9-21	275°F, 15psi
Tack	Light-Medium	

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