

Park Electrochemical Nelcote® E-746 Epoxy Prepreg, 7781 E-Glass Reinforced

Category : Polymer , Thermoset , Epoxy

Material Notes:

Nelcote® E-746 is a modified epoxy resin system designed to retain excellent mechanical properties after extended exposure to high temperature. E-746 has a proven history in many demanding aerospace applications. Key Features and Benefits:Excellent retention of mechanical properties after long-term high temperature exposureSoft tack and drape propertiesLong ambient out-time for maximum process flexibilityGood electrical properties for RF applicationsMeets requirements of MIL-R-9300B Type

IIApplications/Qualifications:Secondary Aircraft StructuresRadomesNacellesInlet DuctsFairingsMeets SS9578 and GMS4001 specifications.Information provided by Park Electrochemical Corp.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Park-Electrochemical-Nelcote-E-746-Epoxy-Prepreg-7781-E-Glass-Reinforced.php

Physical Properties	Metric	English	Comments
Volatiles	<= 2.0 %	<= 2.0 %	
	@Temperature 163 °C	@Temperature 325 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	310 MPa	45000 psi	0° Direction, Dry, Autoclave; ASTM D638
	@Temperature 177 °C	@Temperature 350 °F	
	310 MPa	45000 psi	0° Direction, Dry, Autoclave; ASTM D638
	@Temperature 216 °C	@Temperature 420 °F	
	310 MPa	45000 psi	0° Direction, Dry, Autoclave; ASTM D638
	@Temperature 260 °C	@Temperature 500 °F	
Flexural Strength	345 MPa	50000 psi	0° Direction, Dry, Autoclave; ASTM D638
	@Temperature 138 °C	@Temperature 280 °F	
	448 MPa	65000 psi	0° Direction, Dry, Autoclave; ASTM D638
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	138 MPa	20000 psi	Dry, Autoclave; ASTM D790
	@Temperature 260 °C	@Temperature 500 °F	
	207 MPa	30000 psi	Dry, Autoclave; ASTM D790
	@Temperature 216 °C	@Temperature 420 °F	
	276 MPa	40000 psi	Dry, Autoclave; ASTM D790
	@Temperature 177 °C	@Temperature 350 °F	
	517 MPa	75000 psi	

Mechanical Properties	Metric @ Temperature 138 °C	English @ Temperature 280 °F	Dry, Autoclave; ASTM D790 Comments
	621 MPa	90000 psi	Dry, Autoclave; ASTM D790
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Compressive Strength	345 MPa	50000 psi	Dry, Autoclave; ASTM D695
	@Temperature 138 °C	@Temperature 280 °F	
	517 MPa	75000 psi	Dry, Autoclave; ASTM D695
	@Temperature 23.9 °C	@Temperature 75.0 °F	
Shear Strength	20.7 MPa	3000 psi	Short-Beam, Dry, Autoclave; ASTM D2344
	@Temperature 177 °C	@Temperature 350 °F	
	47.6 MPa	6900 psi	Short-Beam, Dry, Autoclave; ASTM D2344
	@Temperature 23.9 °C	@Temperature 75.0 °F	

Thermal Properties	Metric	English	Comments
Glass Transition Temp, Tg	180 °C	356 °F	Laminate; standard cure
	230 °C	446 °F	Laminate; post cure

Electrical Properties	Metric	English	Comments
Dielectric Constant	4.2	4.2	
	@Frequency 9.375e+9 Hz	@Frequency 9.375e+9 Hz	
Dissipation Factor	0.016	0.016	
	@Frequency 9.375e+9 Hz	@Frequency 9.375e+9 Hz	

Processing Properties	Metric	English	Comments
Gel Time	1.00 - 3.00 min	1.00 - 3.00 min	
Shelf Life	12.0 Month	12.0 Month	
	@Temperature -17.8 °C	@Temperature 0.000 °F	

Descriptive Properties	Value	Comments
Fabric Area Weight (g/m²)	300	
Prepreg Resin Content (%)	34-40	
Resin Flow (%)	7-21	325°F, 50psi

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