

Arlon GenClad™ 280 Low Loss Thermoset Bond-Ply

Category : Polymer , Thermoset

Material Notes:

Low loss Ceramic-Filled Thermoset/Thermoplastic Hybrid System Rivals PTFE laminate electrical performance in a Halogen-Free system. Light weight material relative to standard laminate materials. Optimal Price/Performance ratio for cost-sensitive applications. Benefits: Greater signal integrity. Utilizes Standard FR-4 Processes. Excellent Thermal Properties. Low weight, low-cost electronics. Typical Applications: Cellular Base Station Antennas & Power Amplifiers, Down Converters, LNBS for direct broadcast satellite systems, Broadband wireless access antennas, Avionic radar applications. Information provided by Arlon Materials for Electronics (MED).

Order this product through the following link:

http://www.lookpolymers.com/polymer_Arlon-GenClad-280-Low-Loss-Thermoset-Bond-Ply.php

Physical Properties	Metric	English	Comments
Density	1.35 g/cc	0.0488 lb/in ³	ASTM D792 Method A
Water Absorption	0.040 %	0.040 %	IPC TM-650 2.6.2.1

Mechanical Properties	Metric	English	Comments
Tensile Strength	51.0 MPa	7400 psi	Cross; IPC TM-650 2.4.18.3
	53.8 MPa	7800 psi	Machine; IPC TM-650 2.4.18.3
Modulus of Elasticity	4.62 GPa	670 ksi	IPC TM-650 2.4.18.3
Flexural Strength	214 MPa	31000 psi	IPC TM-650 2.4.4
	221 MPa	32000 psi	IPC TM-650 2.4.4
Compressive Modulus	11.2 GPa	1630 ksi	ASTM D3410
Poissons Ratio	0.25	0.25	ASTM D3039
Shear Modulus	1.85 GPa	268 ksi	Calculated
Peel Strength	1.14 kN/m	6.50 pli	To Copper (1 oz./35 micron); IPC TM-650 2.4.8
	1.17 kN/m	6.70 pli	To Copper (1 oz./35 micron); After Thermal Stress; IPC TM-650 2.4.8

Thermal Properties	Metric	English	Comments
CTE, linear	26.0 µm/m-°C	14.4 µin/in-°F	IPC TM-650 2.4.24
	@Temperature 50.0 - 120 °C	@Temperature 122 - 248 °F	
CTE, linear, Transverse to Flow	50.0 µm/m-°C	27.8 µin/in-°F	z, below Tg; IPC TM-650 2.4.24

Thermal Properties	@Temperature <=130 Metric	@Temperature <=266 English	Comments
	350 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	194 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature >=130 $^{\circ}\text{C}$	@Temperature >=266 $^{\circ}\text{F}$	z, above Tg; IPC TM-650 2.4.24
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft ² - $^{\circ}\text{F}$	ASTM E1225
	@Temperature 100 $^{\circ}\text{C}$	@Temperature 212 $^{\circ}\text{F}$	
Glass Transition Temp, Tg	130 $^{\circ}\text{C}$	266 $^{\circ}\text{F}$	TMA; IPC TM-650 2.4.24
	135 $^{\circ}\text{C}$	275 $^{\circ}\text{F}$	DSC; IPC TM-650 2.4.25
Decomposition Temperature	420 $^{\circ}\text{C}$	788 $^{\circ}\text{F}$	Onset; IPC TM-650 2.4.24.6
	460 $^{\circ}\text{C}$	860 $^{\circ}\text{F}$	5 percent; IPC TM-650 2.4.24.6

Electrical Properties	Metric	English	Comments
Volume Resistivity	7.50e+14 ohm-cm	7.50e+14 ohm-cm	E24/125; IPC TM-650 2.5.17.1
	2.10e+15 ohm-cm	2.10e+15 ohm-cm	C96/35/90; IPC TM-650 2.5.17.1
Surface Resistance	1.90e+14 ohm	1.90e+14 ohm	C96/35/90; IPC TM-650 2.5.17.1
	7.50e+14 ohm	7.50e+14 ohm	E24/125; IPC TM-650 2.5.17.1
Dielectric Constant	2.8	2.8	C23/50; IPC TM-650 2.5.5.5
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	
	2.83	2.83	IPC TM-650 2.5.5.3
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	39.4 kV/mm	1000 kV/in	IPC TM-650 2.5.6.2
Dielectric Breakdown	40800 V	40800 V	IPC TM-650 2.5.6
Dissipation Factor	0.0017	0.0017	IPC TM-650 2.5.5.3
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.0020	0.0020	C23/50; IPC TM-650 2.5.5.5
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	
Arc Resistance	126 sec	126 sec	IPC TM-650 2.5.1

Descriptive Properties	Value	Comments
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Descriptive Properties	Value	Comments
Z-Axis Expansion (%)	4.8	IPC TM-650 2.4.24 (50-260°C)

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