

Arlon AD250C PTFE/Woven Fiberglass/Microdispersed Ceramic Filled Laminate for RF & Microwave PCBs

Category : Polymer , Thermoplastic , Fluoropolymer , PTFE

Material Notes:

For RF & Microwave Printed Circuit Boards. Very Low Loss PTFE and Ceramic Filled Composite (0.0014 Loss Tangent at 10GHz and Base Station Frequencies)Dielectric Constant (2.50) with Tight ToleranceLow Dielectric LossLow Profile Copper (lower conductive losses and lowest PIM)Low Z-direction CTELarge Panel Sizes AvailableBenefits:Higher Antenna EfficienciesLower Insertion LossLow PIM for Antenna ApplicationsImproved TCER for Phase StabilityCeramic provides Higher Degree of Dielectric Constant Stability as Temperatures Change or CycleTypical Applications:Base Station Antenna ApplicationsCommercial AntennasDigital Audio Broadcasting (DAB) Antennas (Satellite Radio)Radar Manifolds and Feed NetworksInformation provided by Arlon Materials for Electronics (MED).

Order this product through the following link:

http://www.lookpolymers.com/polymer_Arlon-AD250C-PTFEWoven-FiberglassMicrodispersed-Ceramic-Filled-Laminate-for-RF-Microwave-PCBs.php

Physical Properties	Metric	English	Comments
Density	2.30 g/cc	0.0831 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	>= 138 MPa	>= 20000 psi	Machine or Cross; IPC TM-650 2.4.18.3
Compressive Modulus	>= 2.41 GPa	>= 350 ksi	ASTM D3410
Peel Strength	2.10 kN/m	12.0 pli	To Copper (1 oz./35 micron); After Thermal Stress; IPC TM-650 2.4.8

Thermal Properties	Metric	English	Comments
CTE, linear	16.0 $\mu\text{m}/\text{m}\cdot\text{C}$	8.89 $\mu\text{in}/\text{in}\cdot\text{F}$	IPC TM-650 2.4.41
	@Temperature 50.0 - 150 $^{\circ}\text{C}$	@Temperature 122 - 302 $^{\circ}\text{F}$	
CTE, linear, Transverse to Flow	50.0 $\mu\text{m}/\text{m}\cdot\text{C}$	27.8 $\mu\text{in}/\text{in}\cdot\text{F}$	z direction; IPC TM-650 2.4.24
	@Temperature 50.0 - 150 $^{\circ}\text{C}$	@Temperature 122 - 302 $^{\circ}\text{F}$	
Thermal Conductivity	0.300 W/m-K	2.08 BTU-in/hr-ft ² - $^{\circ}\text{F}$	ASTM E1461
Decomposition Temperature	>= 500 $^{\circ}\text{C}$	>= 932 $^{\circ}\text{F}$	5 percent; IPC TM-650 2.4.24.6
	>= 500 $^{\circ}\text{C}$	>= 932 $^{\circ}\text{F}$	Onset; IPC TM-650 2.4.24.6
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.10e+15 ohm-cm	1.10e+15 ohm-cm	C96/35/90; IPC TM-650 2.5.17.1
Surface Resistance	4.50e+13 ohm	4.50e+13 ohm	C96/35/90; IPC TM-650 2.5.17.1
Dielectric Constant	2.5	2.5	may vary by thickness; IPC TM-650 2.5.5.3
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	2.5	2.5	may vary by thickness; IPC TM-650 2.5.5.5
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	
Dielectric Breakdown	>= 45000 V	>= 45000 V	IPC TM-650 2.5.6
Dissipation Factor	0.0011	0.0011	IPC TM-650 2.5.5.3
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.0014	0.0014	IPC TM-650 2.5.5.5
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	
Arc Resistance	>= 180 sec	>= 180 sec	IPC TM-650 2.5.1

Descriptive Properties	Value	Comments
IPC Delamination - T260 (minutes)	>60	IPC TM-650 2.4.24.1
IPC Delamination - T288 (minutes)	>60	IPC TM-650 2.4.24.1
IPC Delamination - T300 (minutes)	>60	IPC TM-650 2.4.24.1
Temperature Coefficient of Dielectric (ppm/°C)	-75	IPC TM-650 2.5.5.5; at 10 GHz (-40 - 150°C)

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