

Arlon AD255C 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 (2.55) with Tighter ToleranceLow Dielectric Loss (Loss Tangent)Low 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-AD255C-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	21.4 MPa	3100 psi	Cross; IPC TM-650 2.4.18.3
	27.6 MPa	4000 psi	Machine; IPC TM-650 2.4.18.3
Modulus of Elasticity	2.76 GPa	400 ksi	IPC TM-650 2.4.18.3
Flexural Strength	61.4 MPa	8900 psi	Cross; IPC TM-650 2.4.4
	74.5 MPa	10800 psi	Machine; IPC TM-650 2.4.4
Compressive Modulus	>= 2.41 GPa	>= 350 ksi	ASTM D3410
Poissons Ratio	0.27	0.27	ASTM D3039
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 µm/m-°C	8.89 µin/in-°F	IPC TM-650 2.4.41
	@Temperature 50.0 - 150 °C	@Temperature 122 - 302 °F	
CTE, linear, Transverse to Flow	50.0 µm/m-°C	27.8 µin/in-°F	z direction; IPC TM-650 2.4.24
	@Temperature 50.0 - 150 °C	@Temperature 122 - 302 °F	

Thermal Properties Thermal Conductivity	Metric 0.300 W/m-K	English 2.04 BTU-in/hr-ft ² -°F	Comments ASTM E1461
Decomposition Temperature	495 °C	923 °F	Onset; IPC TM-650 2.4.24.6
	550 °C	1020 °F	5 percent; 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	2.55 @Frequency 1.00e+6 Hz	2.55 @Frequency 1.00e+6 Hz	may vary by thickness; IPC TM-650 2.5.5.3
	2.55 @Frequency 1.00e+10 Hz	2.55 @Frequency 1.00e+10 Hz	may vary by thickness; IPC TM-650 2.5.5.5
Dielectric Breakdown	>= 45000 V	>= 45000 V	IPC TM-650 2.5.6
Dissipation Factor	0.0011 @Frequency 1.00e+6 Hz	0.0011 @Frequency 1.00e+6 Hz	IPC TM-650 2.5.5.3
	0.0015 @Frequency 1.00e+10 Hz	0.0015 @Frequency 1.00e+10 Hz	IPC TM-650 2.5.5.5
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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