

## Arlon AD300C Commercial Microwave and RF Laminate Material

Category : Polymer , Thermoset

### Material Notes:

Excellent Thermal Coefficient of Dielectric Constant (TCER = -25 ppm/°C) Excellent PIM performance High Thermal Conductivity ideal for Higher Power Designs Reduced Coefficient of Thermal Expansion in z-direction (CTEz) Cost-effective Advanced Material for Commercial RF Applications and High Volume Manufacturing Design Tightest Commercial Laminate DK Tolerance for Impedance Control Benefits: Low Dielectric Loss (Loss Tangent) Lower Insertion Loss (S21) Excellent Electrical Phase Stability vs. Temperature Excellent Copper Bond Strength Low Moisture Absorption Typical Applications: Base Station Antennas Power Amplifiers (PA), Tower Mounted Amplifiers (TMA) and Tower Mounted Booster Amplifiers (TMB) Antenna Feed Networks RF Passive Components Multimedia Transmission Systems Information provided by Arlon Materials for Electronics (MED).

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Arlon-AD300C-Commercial-Microwave-and-RF-Laminate-Material.php](http://www.lookpolymers.com/polymer_Arlon-AD300C-Commercial-Microwave-and-RF-Laminate-Material.php)

Physical Properties	Metric	English	Comments
Density	2.07 g/cc	0.0748 lb/in <sup>3</sup>	ASTM D792 Method A
Water Absorption	0.060 %	0.060 %	IPC TM-650 2.6.2.1

Mechanical Properties	Metric	English	Comments
Tensile Strength	40.7 MPa	5900 psi	Machine; IPC TM-650 2.4.18.3
	52.4 MPa	7600 psi	Cross; IPC TM-650 2.4.18.3
Modulus of Elasticity	3.86 GPa	560 ksi	IPC TM-650 2.4.18.3
Flexural Strength	68.9 MPa	10000 psi	Machine; IPC TM-650 2.4.4
	89.6 MPa	13000 psi	Cross; IPC TM-650 2.4.4
Poissons Ratio	0.26	0.26	ASTM D3039
Peel Strength	>= 1.75 kN/m	>= 10.0 pli	To Copper (1 oz./35 micron); After Thermal Stress; IPC TM-650 2.4.8
	>= 1.75 kN/m	>= 10.0 pli	To Copper (1 oz./35 micron); At Elevated Temperatures; IPC TM-650 2.4.8.2
	2.10 kN/m	12.0 pli	To Copper (1 oz./35 micron); After Process Solutions; IPC TM-650 2.4.8

Thermal Properties	Metric	English	Comments
CTE, linear	9.00 μm/m-°C	5.00 μin/in-°F	x direction; IPC TM-650 2.4.41
	@Temperature 50.0 - 150 °C	@Temperature 122 - 302 °F	

Thermal Properties	15.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Metric	8.33 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ English	Comments y direction; IPC TM-650 2.4.41
	@Temperature 50.0 - 150 $^\circ\text{C}$	@Temperature 122 - 302 $^\circ\text{F}$	
CTE, linear, Transverse to Flow	54.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 50.0 - 150 $^\circ\text{C}$	30.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 122 - 302 $^\circ\text{F}$	z direction; IPC TM-650 2.4.24
Thermal Conductivity	0.500 W/m-K	3.47 BTU-in/hr-ft <sup>2</sup> - $^\circ\text{F}$	ASTM E1461
Decomposition Temperature	500 $^\circ\text{C}$	932 $^\circ\text{F}$	Onset; IPC TM-650 2.4.24.6
	555 $^\circ\text{C}$	1030 $^\circ\text{F}$	5 percent; IPC TM-650 2.4.24.6
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.20e+14 ohm-cm	1.20e+14 ohm-cm	C96/35/90; IPC TM-650 2.5.17.1
	1.90e+14 ohm-cm	1.90e+14 ohm-cm	E24/125; IPC TM-650 2.5.17.1
Surface Resistance	2.50e+14 ohm	2.50e+14 ohm	C96/35/90; IPC TM-650 2.5.17.1
	7.70e+14 ohm	7.70e+14 ohm	E24/125; IPC TM-650 2.5.17.1
Dielectric Constant	2.97 @Frequency 1.00e+6 Hz	2.97 @Frequency 1.00e+6 Hz	may vary by thickness; IPC TM-650 2.5.5.3
	2.97 @Frequency 1.00e+10 Hz	2.97 @Frequency 1.00e+10 Hz	may vary by thickness; IPC TM-650 2.5.5.5
Dielectric Strength	16.9 kV/mm	430 kV/in	IPC TM-650 2.5.6.2
Dielectric Breakdown	30000 V	30000 V	IPC TM-650 2.5.6
Dissipation Factor	0.0014 @Frequency 1.00e+6 Hz	0.0014 @Frequency 1.00e+6 Hz	IPC TM-650 2.5.5.3
	0.0020 @Frequency 1.00e+10 Hz	0.0020 @Frequency 1.00e+10 Hz	IPC TM-650 2.5.5.5
Arc Resistance	$\geq$ 180 sec	$\geq$ 180 sec	IPC TM-650 2.5.1

Descriptive Properties	Value	Comments
IPC Delamination - T260 (minutes)	>60	IPC TM-650 2.4.24.1

Descriptive Properties	Value	Comments
IPC Delamination - T300 (minutes)	>60	IPC TM-650 2.4.24.1
Temperature Coefficient of Dielectric (ppm/°C)	-25	IPC TM-650 2.5.5.5; at 10 GHz (-40 - 150°C)

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China