

Arlon 37N Polyimide Low-Flow

Category : Polymer , Thermoset , Polyimide, TS

Material Notes:

37N is a polyimide low-flow prepreg suitable for bonding multilayer polyimide rigid-flex, attaching heat sinks to polyimide MLBs, or other applications where minimal and uniform resin flow is required. Tg > 200°C and expansion characteristics typical of polyimide greatly improves PTH reliability. Good bond strength to Kapton® polyimide, copper and other metals. Curable at temperatures as low as 350°F. Excellent thermal stability. Available in different flow ranges and fiberglass styles for optimal process flexibility. Electrical and mechanical properties meeting the requirements of IPC-4101/42. Compatible with lead-free solder processing. RoHS/WEEE compliant. Typical Applications: Bonding multilayer polyimide rigid-flex. Attaching heat sinks to polyimide MLBs. Other applications where minimal and uniform resin flow is required. This data represents typical values for the production material and should not be used as material specifications. Information provided by ARLON Silicone Technologies Division.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Arlon-37N-Polyimide-Low-Flow.php

Physical Properties	Metric	English	Comments
Water Absorption	<= 1.0 %	<= 1.0 %	IPC TM-650 2.6.2.1

Mechanical Properties	Metric	English	Comments
Tensile Strength	221 MPa	32000 psi	IPC TM-650 2.4.18.3
Flexural Strength	414 MPa	60000 psi	IPC TM-650 2.4.4
Poissons Ratio	0.17	0.17	ASTM D3039
Peel Strength	0.736 kN/m	4.20 pli	To Kapton, as received
	0.964 kN/m	5.50 pli	To Copper (1 oz./35 micron); At Elevated Temperatures; IPC TM-650 2.4.8.2
	1.19 kN/m	6.80 pli	To Copper (1 oz./35 micron); After Thermal Stress; IPC TM-650 2.4.8
	1.61 kN/m	9.20 pli	To Copper (1 oz./35 micron); After Process Solutions; IPC TM-650 2.4.8

Thermal Properties	Metric	English	Comments
CTE, linear	16.0 µm/m-°C	8.89 µin/in-°F	
CTE, linear, Transverse to Flow	76.0 µm/m-°C	42.2 µin/in-°F	z, below Tg; IPC TM-650 2.4.24
	252 µm/m-°C	140 µin/in-°F	z, above Tg; IPC TM-650 2.4.24
Thermal Conductivity	0.300 W/m-K	2.08 BTU-in/hr-ft²-°F	ASTM E1461
Glass Transition Temp, Tg	210 °C	410 °F	TMA; IPC TM-650 2.4.24

Thermal Properties	Metric	English	Comments
Decomposition Temperature	322 °C	612 °F	50%wt, IPC TM-650 2.3.41
	340 °C	644 °F	5 percent; IPC TM-650 2.3.41
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	4.70e+15 ohm-cm	4.70e+15 ohm-cm	E24/125; IPC TM-650 2.5.17.1
	8.20e+15 ohm-cm	8.20e+15 ohm-cm	C96/35/90; IPC TM-650 2.5.17.1
Surface Resistance	4.40e+12 ohm	4.40e+12 ohm	C96/35/90; IPC TM-650 2.5.17.1
	1.20e+15 ohm	1.20e+15 ohm	E24/125; IPC TM-650 2.5.17.1
Dielectric Constant	4.25	4.25	may vary with resin %; IPC TM-650 2.5.5.3
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	52.4 kV/mm	1330 kV/in	IPC TM-650 2.5.6.2
Dissipation Factor	0.018	0.018	IPC TM-650 2.5.5.3
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	124 sec	124 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)	5	IPC TM-650 2.4.24.1
IPC Delamination - T300 (minutes)	2	IPC TM-650 2.4.24.1
Z-Axis Expansion (%)	2.3	IPC TM-650 2.4.24 (50-260°C)

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