

# Arlon® 45N

Epoxy; Epoxide

Arlon-MED

## Message:

Arlon 45N is a tough, high Tg (175°C by DSC) multifunctional epoxy laminate and prepreg system designed for use in a variety of higher layer count MLB's. Processable using conventional FR-4 conditions, 45N is supplied to meet the requirements of IPC-4101/24.

General Information			
Features	Good Crack Resistance		
	Good Toughness		
	Low (to None) Lead Content		
Uses	Automotive Under the Hood		
	Computer Components		
	Electrical/Electronic Applications		
	Laminates		
	Packaging		
RoHS Compliance	RoHS Compliant		
Forms	Liquid		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.85	g/cm <sup>3</sup>	ASTM D792A
Water Absorption (24 hr)	0.10	%	Internal Method
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	19300	MPa	Internal Method
Poisson's Ratio <sup>1</sup>	0.20		ASTM D3039
Films	Nominal Value	Unit	Test Method
Peel Strength			Internal Method
-- <sup>2</sup>	1.4	kN/m	
-- <sup>3</sup>	1.4	kN/m	
-- <sup>4</sup>	1.4	kN/m	
Expansion Rate (50 to 260°C) <sup>5</sup>	2.4	%	Internal Method
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	175	°C	Internal Method
CLTE - Flow			
-- <sup>6</sup>	1.4E-5 to 1.6E-5	cm/cm/°C	Internal Method
< 175°C <sup>7</sup>	5.5E-5	cm/cm/°C	Internal Method
> 175°C <sup>8</sup>	2.0E-4	cm/cm/°C	Internal Method
Thermal Conductivity (100°C)	0.25	W/m/K	ASTM E1461
Electrical	Nominal Value	Unit	Test Method

Surface Resistivity			Internal Method
-- 9	2.9E+13	ohms	
-- 10	4.0E+10	ohms	
Volume Resistivity			Internal Method
-- 11	2.6E+13	ohms·cm	
-- 12	3.3E+13	ohms·cm	
Dielectric Strength	59	kV/mm	Internal Method
Dielectric Constant <sup>13</sup> (1 MHz)	4.40		Internal Method
Dissipation Factor (1 MHz)	0.025		Internal Method
Arc Resistance	65.0	sec	Internal Method
Flammability	Nominal Value	Unit	Test Method
Flame Rating	V-0		UL 94
NOTE			
1.	x and y direction		
2.	After Thermal Stress		
3.	After Process Solutions		
4.	At Elevated Temperatures		
5.	Z-axis		
6.	X-axis		
7.	Z-axis		
8.	Z-axis		
9.	E24/125		
10.	C96/35/90		
11.	E24/125		
12.	C96/35/90		
13.	Range: 402 to 406		

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