Arlon® 25N

Polytetrafluoroethylene

Arlon-MED

Message:

Arlon 25N and 25FR are woven fiberglass reinforced, ceramic-filled composite materials engineered for use in microwave and RF multilayer printed circuit boards. Combining a non-polar thermoset resin system with a controlled-expansion ceramic filler, 25N and 25FR offer low dielectric constant and loss combined with a low Thermal Coefficient of Dielectric Constant (TCEr) for signal stability over a wide ambient temperature range. Designed for use in multilayer packages, 25N and 25FR offer prepregs that are identical in chemical composition and physical properties with their copper clad laminates for a completely homogeneous finished package for optimal signal integrity.
The low dielectric constant (Er) and loss properties, low thermal coefficient of dielectric constant (TCEr), and excellent physical stability characteristics offered by 25N and 25FR materials make them ideal for wireless and digital applications, such as cellular telephones, down converters, low noise amplifiers, antennas and other advanced des ign circuits.
Processing for 25N and 25FR materials is consistent with processing for standard high temperature thermoset based printed circuit board substrates.

General Information			
Filler / Reinforcement	Ceramic Fiber Glass Fiber		
Features	Fast Molding Cycle Good Dimensional Stability		
Uses	Electrical/Electronic Applications		
Forms	Pellets		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity [1]	1.70	g/cm³	ASTM D792A
Water Absorption [2] (23°C, 24 hr)	0.090	%	Internal Method
Volatile Matter [3]	0.010	%	
Peel Strength [4]	875.6	N/m	Internal Method
Total Mass Loss [5] (125°C)	> 0.17	%	
Water Vapor - Recovered	0.020	%	
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Flexural Strength (23°C)	208	MPa	ASTM D790A
Films	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength - MD [6] (Yield)	111	MPa	ASTM D882A
Thermal	**Nominal Value**	**Unit**	**Test Method**
CLTE - Flow			
-- [7]	1.5E-5	cm/cm/°C	Internal Method
-- [8]	5.2E-5	cm/cm/°C	Internal Method
Thermal Conductivity (100°C)	0.45	W/m/K	ASTM E1225
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	4.4E+14	ohms	Internal Method
Volume Resistivity	2.0E+9	ohms·cm	Internal Method
Dielectric Constant [9] (23°C, 10.0 GHz)	3.38		Internal Method

Dissipation Factor [10] (10.0 GHz)	2.5E-3	Internal Method

NOTE	
1.	23°C
2.	E1/105 + D24/23
3.	Maximum 0.10%
4.	After Thermal Stress
5.	< 10e-6 torr, Maximum 1.00%
6.	23°C
7.	Y-axis
8.	Z-axis
9.	C23/50
10.	C23/50

Recommended distributors for this material

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