AES 200 Prepreg

Product Information

Description

AES 200 Prepreg, an offering within the Advanced Electronic Solutions portfolio, is designed to meet next generation needs of 5G and 6G platforms, anticipating requirements for both wireless and digital future designs. AES 200 Prepreg is an extremely low dielectric constant and low loss circuit material.

This product comprises fluoropolymer-based resin, pre-impregnated into glass reinforcement to provide a thin and flexible adhesive prepreg.

AES 200 Prepreg offers benefits of superior electrical and thermal performance, typical of fluoropolymers, and overcomes traditional limitations associated with current PTFE laminates.

Key Features and Benefits

- Low loss tangent and dielectric constant.
- Excellent compatibility with standard PCB processing.
- Improved adhesion to plating chemistries over "standard" PTFE.
- Complete encapsulation of traces and outstanding adhesion to copper foil.
- Negligible variance in dielectric constant and thickness for excellent reproducibility of results.

Construction Options

- Thickness: 125 µm
- Panel Sizes: 12" x 18"

Lamination

As with any thermoplastic material, AES 200 Prepreg is suitable for single lamination constructions and designs. However, where multiple lamination cycles may be necessary, review of the design, including copper area, thickness and number of sequential lamination cycles necessary, is recommended, prior to production commitment.

A suggested lamination press cycle is shown in Figure 1. Pressure can be varied to balance circuit registration, layer to layer adhesion, remaining copper area and fill requirements. Suitability for use should be verified for each new design. AES 200 Prepreg requires no drying or special storage conditions; room temperature with dust protection is adequate. Care should be taken to ensure that adhesive surfaces are clean and particle free prior to lamination.

Figure 1. Recommended AES 200 Prepreg Lamination Press Cycle

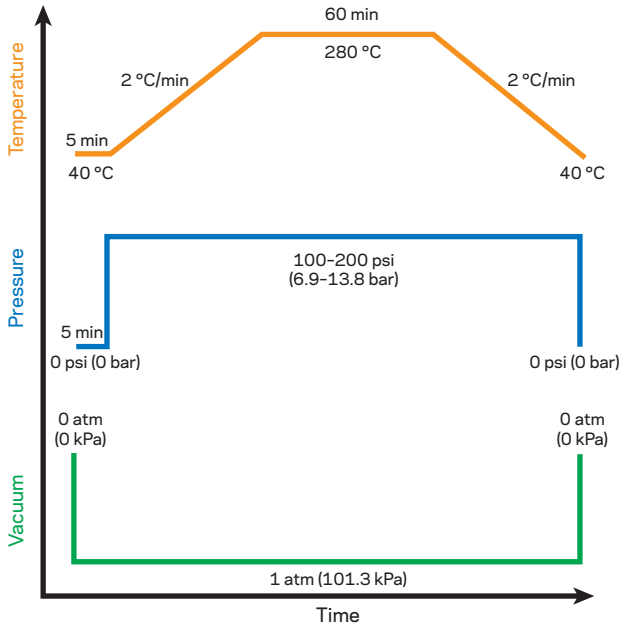

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Table 1. Properties of AES 200 Prepreg[1]

Property	125 µm	Direction	Units	Test Conditions	Test Method
Electrical Properties					
Dielectric Constant	2.31	In-plane (X/Y)	—	10 GHz 23 °C/24 hr/50% RH	IPC TM-650 2.5.5.15
Dissipation Factor	0.0008				IPC TM-650 2.5.5.15
Thermal Properties					
Melting Temperature (T_m)	260	—	°C	1 heat method	ASTM D3418
Decomposition Temperature (T_d)	471	—	°C	5% weight loss	IPC TM-650 2.3.40
Physical Properties					
Thickness	125.0	Z	µm	—	IPC TM-650 2.2.18
Flammability	V-0	—	—	—	UL94
Moisture Absorption	0.02	—	%	E1/105 + D48/50	IPC TM-650 2.6.2.1
Density	2.16	—	g/cm^3	C-24/23/50	IPC TM-650 2.3.5

[1]This table gives properties (not specifications) based on production performance. Chemours does not make any express or implied warranty that these products will have these typical properties.

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