N4000-2

Multifunctional Epoxy Laminate & Prepreg

The most established material of the comprehensive Park/ Nelco product line is N4000-2. This system of multifunctional epoxy laminate and prepreg has one of the broadest operating and processing windows available. N4000-2 is widely used in a number of applications including fineline and high density multilayer boards.

what you need...
when you need it...
where you need it...

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Designed for use in high-density multilayer boards, N4000-2 is suitable for surface-mount multilayers, MCM-Ls, direct-chip attach, automotive and wireless communications. The characteristics of N4000-2 also make it particularly beneficial in high-volume, fine-line multilayers and PCMCIA applications.

The predictability and consistency of this material provides for tremendous ease of processing at the circuit board fabrication site, and its electrical and mechanical characteristics make it user friendly for both designers and fabricators of critical circuits.

As with all Park/Nelco materials, the N4000-2 is vacuum laminated. N4000-2 is available in a wide variety of constructions, copper weights and glass styles. It is also available in standard copper, double-treat copper and our RTFOIL® Laminate.

N4000-2 is a reliable combination of managed cost, superior quality and consistent performance for a multitude of high volume applications.

Product Application Environments

Application	
Fine-Line Multilayers	◆
Surface-Mount Multilayers	◆
CSP's	◆
MCM-Ls	◆
PCMCIA Cards	◆
Wireless Communications	◆
Bluetooth Modules	◆
Automotive	◆

Key Engineering Values

Property	Value
X/Y CTE (ppm/°C)[-40 to 125°C]	12 - 16
Z Axis Expansion (%) [50 to 260°C]	4.5
T_g by DSC (°C)	140
Dielectric Constant (50% resin content)	
@ 1 MHz	4.4
@ 1 GHz	4.1
Dissipation Factor (50% resin content)	
@ 1 MHz	0.027
@ 1 GHz	TBD

Vacuum Lamination Parameters

Parameter	Value
Full Cure In Press	45 min. @ 170 °C
Heat Up Rate (°C/min.)	4 -7
Critical Range (°C)	70 - 130
Cool Down Rate (°C/min.)	< 3
Pressure (kg/cm²)/(psi)	15 - 20/200 - 300

Set platen 3-5° C higher than cure temp. & control heat up rate through critical temperature range.
Partial cure in press is not recommended for this product.

RTFOIL® is a trademark of Park Electrochemical Corp.

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