

# N4000-13 EP™

## Application Bulletin- UL Approval

## UL Approval for N4000-13 EP™

August 7, 2006

### Scope

This bulletin describes the UL approval status for N4000-13 EP™ as of the date given above. Revisions to this document will be issued as necessary to reflect further UL approvals.

### Status

On August 4, 2006, Park Electrochemical Corp. received UL Notice of Authorization for Nelco FR-4 Laminate Grade N4103-13EP. From a performance standpoint, this product is designed to fit into our digital broadband material offerings and is an equivalent material to N4000-13 with the same electrical characteristics with improved thermal performance. Effective October 2006, N4103-13EP laminate and N4203-13EP B-sales prepreg will be available on a commercial basis in Asia and North America. Initial business unit manufacturing sites are in Singapore and Arizona.

On August 4, 2006, Park received full UL Recognition for N4103-13EP Metal Clad Laminate per the table below.

N4103-13EP / N4203-13EP can be added to an existing FR-4 multilayer board with no UL samples required due to the equivalency with standard N4000-13. Please contact your local UL office and ask them to add N4000-13 EP™ to your UL file.

#### **N4103-13EP UL Recognition**

*Ultrathin industrial laminates with copper on one or both sides and prepreps for use in multilayer printed wiring boards*

Clad Material Designation	ANSI Type	Min Thk In. (mm)	Clad Cond Thk		Max Area Diam In. (mm)	Sold Lts		Max Oper Temp	Min Board Bld-Up In. (mm)	UL-94 Flame Class
			Min Mils (Mics)	Max Mils (Mics)		Temp F (C)	Time Sec			
N4103-13EP	FR-4	0.0016  (0.040)	0.19  (5)	2.7  (68)	2.0*  (50.8)	550  (288)	30	130	0.015  (0.38)	V-0

\* The 2.0 in. (50.8 mm) maximum area may be considered representative of larger areas not exceeding a printed wiring board fabricators limits.