

## PRODUCT INFORMATION BULLETIN

**FOR LAMINATION OF  
RIGID MULTILAYER,  
FLEXIBLE CIRCUITS AND  
UNCLAD LAMINATES**



**PACOTHANE® LE2000**

### OVERVIEW

**PACOTHANE® LE2000** – is designated for those Pacothane release film applications that require a very low extraction of residues on the surface of the laminated substrate. “LE” is perfect for Unclad, Kapton and Stiffener builds which require pristine surfaces post lamination for further secondary sequential lamination builds or printing applications.

### LAMINATION APPLICATIONS

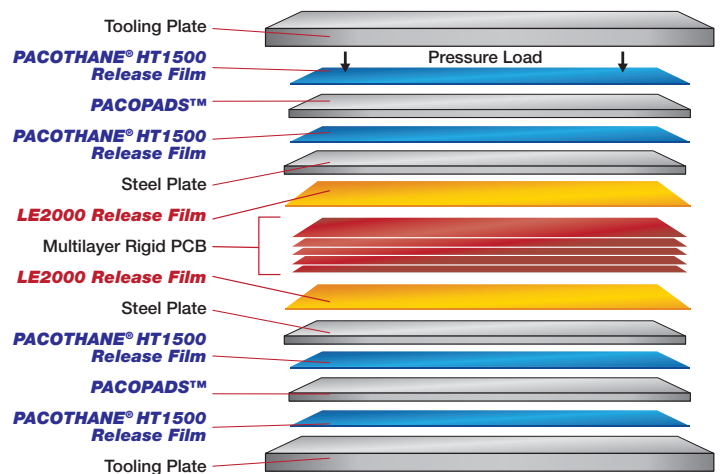
- **Rigid Multilayer Panels:** to contain resin squeeze-out; to buffer and protect copper from damaged plates; to minimize stress effect from aluminum plates; to reduce frequency of plate cleaning; to increase plate life; to prevent press pads from sticking to plates or bonding to tooling pins. (See lay-up recommendation)
- **Flex, Rigid-Flex Panels:** to contain resin squeeze-out; for complete conformity to part topography; to provide easy separation of conformal hydraulics and driver pads from PCB surfaces. (See lay-up recommendation)

For both of the above applications “LE” creates a better surface quality on Copper Foil, Kapton and various Unclad Resins where optimum post lamination cleaning processes may not be available.

### FEATURES

- Contaminate free release from resins and separator plates
- Rated for Operating Temperatures up to 400°F (204°C) for up to 2 Hours
- Optimal thickness at 1.8 mils (47µm) for easy Handling (50% thicker than competitive release films)
- No embedded impurities
- Extremely low X&Y Axis shrinkage with reduced static potential
- Essentially inert: no out-gassing, no plate residue, no inter-laminar adhesion influence, and no vacuum system contamination
- Environmentally friendly: no Ozone depleting chemicals, no fluorine’s
- “LE” low extractable offers a cleaner surface free of residues with minimum extraction characteristics

### RECOMMENDED LAMINATION LAY-UP



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## DESCRIPTION OF STANDARDS

Physical Property	Test Method	Reported Units	Typical Values		
Max. Application Temp.	Q 1025	°F (°C)	400(204)		
Thickness	Q 3019	mil (µm)	1.80 (47)		
Density	ASTM	g/cm3	0.94		
Heat Shrinkage	MD	Q-1045	%		
	TD		%		
Melting Temp.	ASTM E794	°F (°C)	495°F (257°C)		
Appearance	White, Semi-translucent				
Tensile Strength (At yield point)	MD	YP	ASTM D882	Kg/cm2	230
		Elong	ASTM D882	%	410
	TD	YP	ASTM D882	Kg/cm2	190
		Elong	ASTM D882	%	520

## AVAILABILITY

PACOTHANE® LE2000 RELEASE FILM is available in rolls and in custom-made sheet sizes, tooled to customer specifications. The complete line of Pacothane products is available from leading local Distributors Worldwide who offer "Just in Time" delivery from locally-available stocks.

## Also from Pacothane® Technologies:

### RELEASE PRODUCTS



### PRESS PADS



### CONFORMABLES



### CONTAMINATION CONTROL



### ULTRA HIGH TEMPERATURE



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**REPRESENTED BY:**

