

PRODUCT INFORMATION BULLETIN

FOR LAMINATION OF MULTILAYER AND FLEXIBLE CIRCUITS.



OVERVIEW

PACOLON™ – is a line of ultra high performance Release Films with grades that withstand operating temperatures up to 500°F/260°C. PACOLON™ films are engineered to provide excellent, contamination-free release during the process of laminating Rigid Polyimide PCBs, all Flexible Circuit Boards, Teflon and other demanding applications. These films provide a super smooth surface for adhesive and resin flow control [Flex Circuits], with low deformation under pressure [i.e., controlled, repeatable shrinkage].

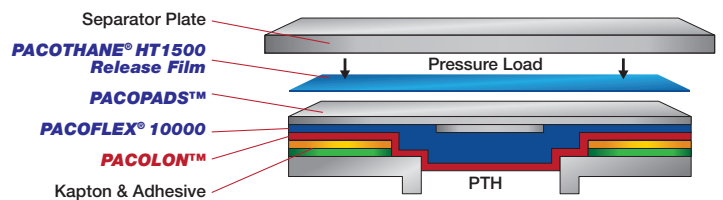
LAMINATION APPLICATIONS

- **Rigid Multilayer Panels:** to contain resin squeeze-out, protect copper from damaged plates, minimize X-Y axis stress from Aluminum plates, reduce plate cleaning, 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 adhesive bleed, completely conform to part topography, guarantee total separation of conformal hydraulics and driver pads from PCB surfaces. (See lay-up recommendation)
- **MICROWAVE CIRCUIT MATERIALS / TEFLON BOARD**

FEATURES

- Easy release at temperatures up to 500°F / 260°C
- Excellent flexibility
- Low X-Y axis shrinkage
- Ultra smooth surface finish, with superior conformal properties
- Inert and homogenous
- No separator plate residue, prepreg or vacuum system contamination
- Available in 2 Mils thickness .002” or 50.8 microns

RECOMENDED LAMINATION LAY-UP



37 East Street, Winchester, MA 01890
Phone: 781-729-0927 Fax: 781-729-0929
email: sales@pacothane.com web: www.pacothane.com

PRODUCT INFORMATION BULLETIN

**FOR LAMINATION OF
MULTILAYER AND
FLEXIBLE CIRCUITS.**



DESCRIPTION OF STANDARDS

MECHANICAL PROPERTIES	Value	Units	Standard
Tensile Strength (Molding Direction)	2175 - 5000	psi	ASTM D638
Elongation at Break (Molding Direction)	150 - 350	%	ASTM D638
Density	2.13 - 2.19	g/cc	ASTM D792
Hardness	57 - 64	Shore D	ASTM D2240
Haze	80 - 85	%	ASTM D1003
Deformation under Load	@ 1Hr, 73°F, 2060psi @ 24Hrs, 73°F, 2060psi @ Permanent Deformation @ 1Hr, 300°F, 725psi	11.8 14.3 7.9 10.0	% % % %
Compressive Modulus	@ 0.2% Offset, 73°F	87000 - 101500	psi ASTM D621
Flexural Yield Strength	@ 0.2% Offset, 73°F	-	psi ASTM D790
Flexural Modulus	@ 73°F	100000	psi ASTM D790
Compressive Strength	@ 0.2% Offset, 73°F @ 0.2% Offset, 300°F	- -	psi psi ASTM D695
ELECTRICAL PROPERTIES	Value	Units	Standard
Dielectric Strength	@ Air (Tape) @ Oil (Extrusion/Molding)	1525 - 2030 890/610	V/mil V/mil ASTM D149
Proof Test (Dielectric Strength)	610 (Pass)	V/mil	BS6564 (E)
Dielectric Constant	@ 60 Hz @ 10 ⁶ Hz	2.1 2.1	- - ASTM D150
Dissipation Factor	@ 60 Hz @ 10 ⁶ Hz	<0.0003 <0.0003	- - ASTM D150
Resistivity	@ Surface @ Volume	10 ¹⁷ 10 ¹⁸	Ω Ω cm ASTM D257
THERMAL PROPERTIES	Value	Units	Standard
Point of Fusion DSC	620	°F	ASTM D3417
Max. Working Temperature	500	°F	-
Max. Working Temperature @ Short Periods	570	°F	-
Min. Working Temperature	- 390	°F	-
Thermal Conductivity @ Molding Direction (MD)	1.66	Btu in/(R ² h °F)	ASTM C177
Coefficient of Linear Thermal Expansion TMA (73 - 390°F)	@ Molding Direction (MD) @ Right Angles to MD	288 306	10 ⁻⁶ /°F 10 ⁻⁶ /°F ASTM E831
Flammability	Pass	-	UL94V(0)
Flash Point	986	°F	ASTM D1929
Limiting Oxygen Index	>95	%	ASTM D2863
WEAR PROPERTIES	Value	Units	Standard
Coefficient of Friction @ Dry sliding	0.08	-	ASTM D1894
Static	0.06	-	-
Dynamic	-	-	-

AVAILABILITY

PACOFLEX™ ULTRA is available in custom-made sheet sizes, tooled to customer specifications. The complete line of Pacothane Technologies 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



Information contained in this technical literature is believed to be accurate and is offered in good faith for the benefit of the consumer. Inasmuch as Pacothane® Technologies has no control over the use to which others may put the material, it does not guarantee that the same results as those described herein will be obtained. Each user of the material should make his own tests to determine the material's suitability for his own particular use. Statements concerning possible or suggested uses of the materials described herein are not to be construed as constituting a license under any Pacothane® Technologies patent or application covering such use or as recommendations for use of such materials in the infringement of any patent.

D I S T R I B U T E D W O R L D W I D E .

REPRESENTED BY:

