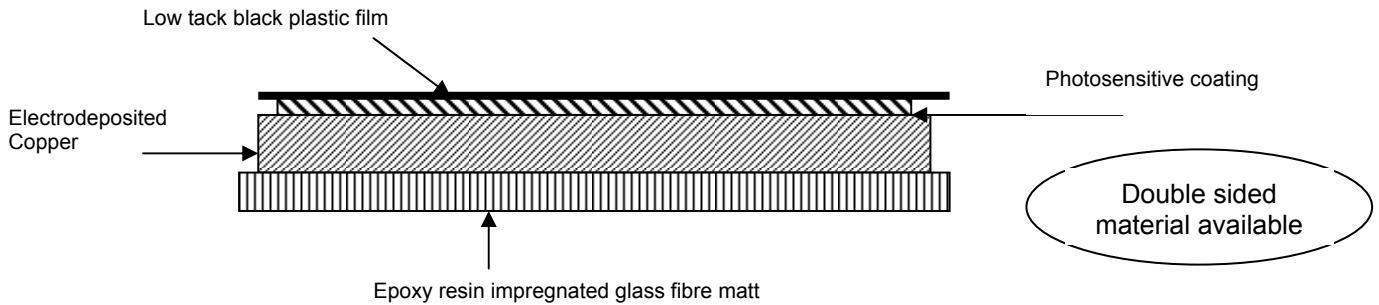


FOTOBOARD – PRE-SENSITISED COPPER BOARD

The first choice for the production of quality printed circuit board

Fotoboard is a positive working, Photoresist coated, glass fibre printed circuit laminate to BS4584 and MILSPEC MIL-P-1394GE GRN. The resist is applied 5 microns thick using a specially developed roller coating process which ensures a particularly even layer. The resist is high temperature cured which, combined with its tough plastic film laminate covering, results in a durable board which can be handled, guillotines and processed with a high degree of safety. Inspection at the development stage is simplified by use of a green dye in the Photoresist. Fotoboard is 1/16" thick, 1oz copper. It has a minimum shelf life of one year and is available as both single and double sided. 2oz and other thickness' are available on request.



Thickness	1/16" (1.6mm)
Copper per square foot	1 oz (35 microns)
Water Absorption	0.12%
Dielectric Constant (1 MHz)	4.55
Dissipation Factor	0.0175
Flexural strength, Lengthways (N/mm ²)	530.00
Flexural strength Crosswise (N/mm ²)	425.00
Peel Strength (N/mm ²)	1.95

GENERAL TECHNICAL CHARACTERISTICS

	CHARACTERISTICS	CONDITIONING	UNIT	FOTOBOARD (FR4)	METHODOLOGY	FPC-16	METHODOLOGY	
Non Electrical Tests Base Material	Flexural Strength	Lengthwise / Crosswise A	N/mm ²	570/ 460	MILP.13949	370/ 250	NEMA L1-1	
	Punchability	A		1	DIN 53488	1	DIH 53488	
	Hardness	A	M Scale	112		105		
	Shear Strength	A	N / mm ²	138.5		105		
	Flammability	A; E-168 / 170		S	20(V-O)	UL94	10(V-O)	UL-94
	Temperature Index	A		°C	130	UL746	130	UL 746
	Water Absorption	E-1 /105 + D- 24 /23		%	0.1	MILP.13949	0.25	NEMA 11-1
	Pressure Vessel Thermal Stress	C-1/2 /15 psi +E-20s /260			5	MILP.13949		
	Non Electrical Tests on Metal Clad Material	Thermal Stress	E-6/150+E10s /288	S	>40	MILP.13949	>40	MIL.P.13949
Peel Strength		As received	N/mm	2.2	MILP.13949	2.10	MIL.P.13949	
Peel Strength		After thermal stress	N/mm	1.9	MILP.13949	1.8	NEMA L1-1	
Peel Strength		E-1/125(FR3:E-1/105)	N/mm	1.7	MILP.13949	1.6	NEMA L1-1	
Peel Strength		After exposure to processing Sol	N/mm	1.85	MILP.13949	1.7	MIL.P.13949	
Warp on Panels 304x304mm		A	%	≤0.5	MILP.13949	≤1.0	MIL.P.13949	
Electrical Tests	Electrolytic Corrosion	C-96/40/92		A/1.4	1EC.249	A/1.0	1EC.249	
	Dielectric Breakdown	To lamination D48/50+D-1/2/ 23	KV	70	MIL.P 13949	65	NEMA L1-1	
	Electric Strength	D-48 / 50+D -1/2/23	V/mil		MIL.P 13949			
	Permittivity	1 MHZ C-40 / 23/50		4.5	MIL.P 13949			
	Permittivity	1 MHZ D-24 / 23			1EC.249	4.2	NEMA L1-1	
	Dissipation Factor	1 MHZ C-40 / 23/50		0.017	MIL.P 13949			
	Dissipation Factor	1 MHZ D-24 / 23				0.03	NEMA L1-1	
	Surface Resistance	Moisture resistance	Ω	22 x 10 ¹²	MIL.P 13949			
	Surface Resistance	E24/125 (FR3:E-4/105)	Ω	5 x 10 ¹¹	MIL.P 13949	7 x 10 ¹⁰	MIL.P.13949	
	Volume Resistivity	Moisture resistance	Ω cm	27 x 10 ¹²	MIL.P 13949			
	Volume Resistivity	E24/125 (FR3:E-4/105)	Ω cm	3 x 10 ¹²	MIL.P 13949	8 x 10 ⁹	MIL.P.13949	
Volume Resistivity	C96-35-90	Ω cm	3 x 10 ¹²	MIL.P 13949	40 x 10 ¹²	NEMA L1-1		



MEGA ELECTRONICS LIMITED

Mega House, Grip Industrial Estate, Linton, Cambridge. CB21 4XN

Telephone: +44 (0) 1223 893900 Fax +44 (0) 1223 893894

email : sales@megauk.com Web site: www.megauk.com

Fotoboard: The first choice for the production of quality printed circuit boards. Fotoboard is positive working, photoresist coated, FR4 glass fibre printed circuit laminate to BS4584 and MILSPEC MIL-P-13949GE GRN. The resist is applied 5 microns thick using a specially developed roller coating process which ensures a particularly even layer. The resist is high temperature cured and covered in a protective black film to enable it to be handled and guillotined safely. A green dye is in the photoresist which simplifies inspection at the development stage. Fotoboard is 1/16" thick with 1oz copper. It has a minimum shelf life of 12 months and is available as single and double sided. 2oz copper and other thicknesses of laminate are available upon request.

FPC-16: A fibre glass and paper composite laminate manufactured to the same high quality standards as Fotoboard but giving certain price and weight advantages. The base laminate of FPC-16 consists of two thin fibre glass outer layers with a paper composite in between making it light and easy to cut and drill. The 1oz copper thickness and high quality photoresist are the same as Fotoboard. FPC-16 is a popular choice with the educational and training sectors.

Associated Products

A range of associated products for use with these laminates are featured in our free catalogue. Products include PCB shears, UV exposure units, PCB processing chemistry, tanks and drilling systems.

Cutting

To avoid splinters and dust a band saw should not be used to cut these laminates. Use a purpose designed PCB shear - see Mega's catalogue.

UV Exposure

With a good quality artwork the correct exposure time with a table top UV will be between 2-3 minutes. The exact time will depend on the output of the UV unit.

Processing

A range of PCB chemistry is offered in Mega's product catalogue. The following items are particularly recommended.

Developing: 600-010 1 litre concentrate makes 10 litres of developer

Etching: 600-013 2.5kg Ferric Pellets for 5 litres of etchant
600-015 5 litres of ready to use Ferric etchant
600-014 Clean Fine Etch Crystals for 5 litres of etchant

Photoresist Strip: 600-004 SN120 Photoresist Strip applicator
600-019 1 litre PC155 concentrate for 5 litres of stripper

Tin: 600-020 90g powder for 1 litre immerse tin
600-021 450g powder for 5 litres immerse tin

Drilling

For good quality holes always use Tungsten Carbide drill bits. Where economy is important Mega's range of low cost reground Tungsten Carbide drill bits will be of interest.